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TESTIMONY ON MICHIGAN S.B. 403
Presented by Vicki Deisner, Midwest Legislative Director
Before the Michigan Senate Agriculture Committee
Tuesday, May 24, 2016

Chairman Hune, Majority Vice-Chair Green, Minority Vice-Chair Johnson and distinguished members of the Senate Agriculture Committee, I am Vicki Deisner, the Midwest Legislative Director for the American Society for the Prevention of Cruelty to Animals (ASPCA). The ASPCA, founded in 1866, is the first humane organization established in the Americas and serves as the nation's leading voice for animal welfare. The ASPCA's mission is to provide effective means for the prevention of cruelty to animals throughout the United States. As part of our national effort to assist local anti-cruelty efforts on the ground, the ASPCA provides grants to local communities. In fact, over the last several years we have awarded over $600,000 to communities throughout Michigan. On behalf of our approximately 2.5 million members and supporters, including over 73,000 Michiganers, the ASPCA respectfully urges this committee to support S.B. 403 - a bill that would assure the state of Michigan provides the most humane death possible for animals when euthanasia is necessary.

S.B. 403 would require the use of injection for euthanasia in Michigan animal shelters and by Class B dealers in the state. Direct injection of the drug sodium pentobarbital (referred to as EBI for euthanasia by injection) is accepted by all national veterinary and humane organizations as the most humane method currently available for euthanasia. When performed properly by trained personnel, EBI is painless to the animal and takes effect within seconds. The use of use of other methods of causing death besides EBI, such as the use of gas chambers which can take over 25 minutes to kill an animal, is unacceptable in any setting where proper euthanasia drugs can be legally obtained. Proper **euthanasia** drugs can be legally obtained **by authorities** in Michigan.

Gas chambers are ineffective and inefficient. The gas chamber cannot be humanely used for the majority of shelter pets that require euthanasia. Old, sick and injured animals have circulatory problems that delay the effects of carbon monoxide, causing them to experience significant distress prior to losing consciousness. Likewise, young animals have physiological make-ups that render a humane death impossible. And when animals are pregnant, the mother typically dies well before the unborn puppies, causing them to suffocate to death. The 25 or more minutes it can take to end that animal's life is agonizing.

Gas chambers pose a danger to shelter staff. Carbon monoxide is a hazardous substance that is highly toxic with no odor, color or taste. It is one of the leading causes of accidental poisoning in the United States. Repeated exposure to carbon monoxide, even at low levels, can result in long-term effects including impaired memory, breathing difficulties, muscle weakness, heart irregularity, and brain damage. In addition, animals that are handled when put into a small, dark, confining gas chamber may become fearful and react more adversely than animals who are being gently restrained during EBI – thus increasing the danger for shelter staff. Shelter workers have been injured and even killed by malfunctioning gas chambers – in 2000 a Tennessee shelter worked was killed due to carbon monoxide exposure while in the process of euthanizing an animal.

Gas chambers are more expensive. A 2009 study has proven that death by injection, including the costs of permitting and acquiring euthanasia drugs, actually costs less that using a gas chamber.

Training for injection is readily available. Michigan law permits shelter technicians to directly administer euthanasia drugs without supervision by a veterinarian, and a majority of shelters are licensed to receive EBI drugs directly. Grants and training are available to help Michigan shelters with the transition to injection.

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State action is needed. Statewide regulation is needed to ensure all Michigan shelter pets, and those who are procured by Class B dealers (animal brokers), receive the same humane treatment if euthanasia is **absolutely** necessary.

For all of these reasons, I respectfully urge this committee to support S.B.403, and end the cruel practice of putting pets to death in gas chambers. Thank you for your time and consideration.

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AMERICAN HUMANE

Protecting Children & Animals Since 1877

American Humane
Humane Euthanasia of Shelter Animals Fact Sheet

1. **Euthanasia by Injection (EBI) is the safest way for humans to euthanize shelter animals.**
   - The American Humane Association has been directly involved in training shelter euthanasia technicians on properly administering euthanasia by injection for decades. This on-site assistance has definitively shown that EBI is the safest and only humane way to euthanize shelter animals.
   - Carbon monoxide poses a danger to humans because it is colorless, tasteless, odorless, and highly explosive[1]. A gas chamber must be constantly checked and maintained to ensure no cracks in the structure or failing seals. When carbon monoxide is released in a confined area, it can cause asphyxiation, kidney damage, or induced coma.
   - The gas chamber jeopardizes the safety of shelter workers. In 2009, gas build-up caused the door of the Lincoln County, North Carolina shelter to explode open; the incident put an animal control officer in the emergency room. In 2008, an explosion in the Iredell County, North Carolina Animal Services' gas chamber revealed that, contrary to recommendations, the equipment in the vicinity of the chamber was not explosion proof. A shelter worker was in the room at the time and other personnel were nearby. In 2000, a shelter worker in Tennessee was asphyxiated to death while operating a faulty gas chamber. And in 1997 a shelter veterinarian in Illinois was severely injured while operating a gas chamber. In contrast, there are no documented reports of any shelter worker being killed from an accidental injection of sodium pentobarbital.[2]
   - The American Veterinary Medical Association (AVMA) 2007 Guidelines on Euthanasia state: *"Carbon Monoxide is extremely hazardous for personnel because it is highly toxic and difficult to detect . . . The advantages of using barbiturates for euthanasia in small animals far outweigh the disadvantages. Intravenous injection of a barbituric acid derivative is the preferred method for euthanasia of dogs, cats, other small animals, and horses."*[3]

2. **EBI is the *most* humane method of euthanizing shelter animals.**
   - IF successful, the gas chamber can take up to 25 to 30 minutes to end an animal's life, whereas EBI causes loss of consciousness within 3 to 5 seconds and clinical death within 2 to 5 minutes.[4] EBI causes animals to lose consciousness and brain function before their vital organs shut down. In a chamber, however, animals lose consciousness and brain function only after their vital organs shut down, causing prolonged suffering and distress.
   - EBI is the method preferred by the National Animal Control Association,[5] the American Veterinary Medical Association,[6] the Association of Shelter Veterinarians,[7] and The Humane Society of the United States.
   - Old, neonatal, and injured animals are often biologically unable to absorb the gas as readily as larger or healthier animals, which prolongs trauma and stress.[8]
   - Birds and neonatal animals are commonly euthanized by using halothane or isoflurane anesthesia gas, followed by an intraperitoneal injection into the abdominal cavity. Birds are commonly euthanized via an oral injection of sodium pentobarbital. Using dioxide on these animals is unnecessary.

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[1] *See* Christopher Henry, et al., *Myocardial Injury and Long-term Mortality Following Moderate to Severe Carbon Monoxide Poisoning*, (The Journal of the American Medical Association, Vol, 295, No. 4, 2006).

[2] "Sodium pentobarbital is not considered a health hazard to staff unless it is deliberately misused or handled incorrectly." (American Humane Association, *Operational Guide for Animal Care and Control Agencies: Euthanasia by Injection, p. 19, 2005).*

[3] American Veterinary Medical Association Guidelines on Euthanasia, p.10-11. (2007).

[4] American Humane Association, *Euthanasia by Injection—Training Guide*, p. 8 (2008).

[5] *See* National Animal Control Policy Statement: Disposition of Animals—Euthanasia, *at* http://www.nacanet.org/poleuth.html .

[6] The AVMA 2007 Guidelines on Euthanasia state: "The use of injectable euthanasia agents is the most rapid and reliable method of performing euthanasia." (p. 11). *See* http://www.avma.org/issues/animal_welfare/euthanasia.pdf .

[7] Association of Shelter Veterinarians position statement on Euthanasia of Shelter Animals, *at* *http://www.sheltervet.org/documents/Position%20Statements/Euthanasia%20of%20Shelter%20Animals.pdf.*

[8] Grim, Randy, *Miracle Dog: How Quentin Survived the Gas Chamber to Speak for Animals on Death Row*, (Alpine Books, 2005, p. 27).

- The animals don't always die in gas chambers, as documented by the fact that a dog survived the St. Louis, MO Animal Regulation Center's gas chamber in 2003[9] and a puppy survived the Davie County, NC Animal Shelter's gas chamber in 2005.[10]
- Referring to the horrors of carbon monoxide, Doug Fakkema, the nation's animal euthanasia expert,[11] has stated: "[t]he animal is in a warm or hot box, usually with other animals. They don't know what is going on. The hiss of the gas is going on inside. They get dizzy, and then they panic. Fights can break out, and animals' calls can sometimes be heard."[12]

3. **It is dangerous to put aggressive and/or wild animals in the gas chamber. Sedation methods utilized with EBI are safer for shelter staff in cases of highly aggressive and wild animals, and more humane for those animals.**
It is much safer to sedate and then inject an aggressive animal instead of dragging it frantically into a gas chamber. Many common restraint methods do not require shelter workers to handle the animal themselves if the animal is deemed dangerous. These include: Restraint poles, squeeze gates, and syringe poles. Shelter workers can then anesthetize the animal with an intramuscular injection of pre-euthanasia drugs, followed by Sodium Pentobarbital once the animal is unconscious. If these restraint methods are not available, shelter workers can give aggressive and/or wild animals Sodium Pentobarbital by mouth by mixing its powder form (called Fatal Plus) with canned food or by squirting it into the animal's mouth. Once the animal is unconscious, they can administer a lethal dose of the drug.[13]

4. **Many states have passed laws prohibiting carbon dioxide and monoxide euthanasia of shelter animals.**
Currently, only nine states have laws that explicitly ban all forms of gassing for all types of animals in shelters (including ferals and wildlife): Arizona, Delaware, Illinois, New Jersey, New York, Oregon, Rhode Island, Washington, and Wyoming. Connecticut, Florida, Georgia, Maine, Maryland, New Mexico, Tennessee, and Virginia have prohibited carbon dioxide and monoxide for shelter cats and dogs.

5. **EBI provides shelter workers the dignity they deserve when facing the difficult reality of euthanizing pets.**
American Humane's knows first-hand that most shelter workers wish to hold and comfort a frightened animal in its final moments of life. That act may be the only kindness the animal has ever known. In contrast, the gas chamber is both inhumane and demoralizing to the emotional and physical health of human beings and animals.

6. **A 2009 study by American Humane shows EBI is less costly than gas to communities.**
American Humane recently commissioned a study on the costs associated between EBI and gas. Using data from an animal sheltering organization in North Carolina, the number of dogs and cats euthanized in 2007 was 5,427. The study, which is applicable to other jurisdictions, shows that the cost to use carbon monoxide gas is $4.98 per animal. The cost to use carbon monoxide poisoning without a tranquilizer is $4.66 per animal. The cost to use EBI, however, was only $2.29 per animal.[14] Cost figures from North Carolina are comparable to other states. Thus, EBI is more cost effective than gas.

For more information, please contact:
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[9] Id, p. 30.
[10] *See* Gunning, Mike, *Puppy Survives Euthanasia Attempt, Trip To Dump , at* http://www.freewebs.com/animalshelternews/index.htm.
[11] Doug Fakkema is a trainer and consultant for American Humane with over 35 years' experience in animal protection. He conducts euthanasia workshops around the country. *See* Doug Fakkema, *Comparison of Sodium Pentobarbital and Carbon Monoxide as Euthanasia Agents.* www.crean.com/kindness/ebi-vs-co.html.
[12] Mott, Maryann. Animal Gas Chambers Draw Fire in U.S., National Geographic News, April 11, 2005.
[13] Mr. Fakkema states: "I can euthanize a dangerous dog in his/her kennel by feeding sodium pentobarbital—no handling necessary." *See* http://www.animalpeoplenews.org/06/10/carbongaschambers106.html .
[14] January 2009; Doug Fakkema, Consultant to Animal Care & Control, Commissioned by American Humane Association. *Study available upon request.*

EBI COST ANALYSIS MATRIX 2009

This cost analysis matrix uses actual 2007 cost and animal data from a municipal animal control agency in North Carolina.

- *Note: no actual data for fractious / feral or age breakdown – those data are estimates.*
- Number of dogs euthanized: 2430 (1701 over 4 months – 70% and 729 less than 4 months – 30%) (972 fractious – 40%)
- Number of cats euthanized: 2997 (1798 over 4 months – 60% and 1199 less than 4 months – 40%) (1499 feral – 50%)
- Total dogs and cats euthanized: 5427
- Average number of animals euthanized per day: 15 (5427 / 365 days)

Assumptions:

a. fractious / feral animals (2471 40% dogs and 50% cats) are given pre-euthanasia anesthesia (ketamine/xylazine)
b. friendly cats (1498) are given IP injection of sodium pentobarbital with no pre-euthanasia anesthesia
c. friendly dogs (1215) are given IV injection of sodium pentobarbital with no pre-euthanasia anesthesia

	EBI EQUIPMENT COST	
1	Equipment cost: $670	Floor safe ($350) + table ($100) + electric clippers ($120) + restraint gate ($100)
2	Total equipment cost per animal: $0.123	$670 / (animals euthanized per year) 5427 = $0.123
	EBI LABOR COST	
3	A. # of employees required for IV: 2 B. # of employees required for IP: 1 C. # of employees required for IC: 1	NOTE: 1 employee can safely and effectively administer IP on conscious friendly cats and IC on unconscious or anesthetized animals; 2 employees are required for IV
4	A. # of IV injections (dog): 1215 B. # of IP injections (cat + puppy): 1741 C. # of IC injections (dog + cat): 2471	A. 1215 = 50% of 2430 dogs and 0 cats B. 1741 = 243 puppies (10% of dogs) + 1498 cats (50% of cats) C. 2471 = 972 dogs + 1499 cats

January 2009; Doug Fakkema, Consultant to Animal Care & Control, Commissioned by American Humane Association

5	Average time to euthanize: 5 minutes average	Transport to euthanasia room + preparation (including IM injection of pre-euthanasia anesthesia as needed) + scanning for microchip + injection + verification of death + removal of carcass + record keeping. *NOTE: average time for IP (friendly cats, puppies and kittens) is typically less than 5 minutes; average time for IV is sometimes longer than 5 minutes.* *Considering an average of 15 animals per day, a typical scenario will involve multiple activities happening concurrently such as animals going under pre-euthanasia anesthesia in a quiet area while another animal is being injected.*
6	Total time to euthanize: 75 minutes	# of animals per day (15) × average time to euthanize (5 minutes)
7	Hourly labor cost per worker: $13.57	Hourly wage: $10.44 + 30% fringe: $3.13 = $13.57
8	5-minute labor cost per worker: $1.13	Hourly labor cost: $13.57 / 60 minutes = $0.226 X 5 minutes = $1.13
9	IV labor cost: $2.26	5-minute labor cost: $1.13 X 2 employees = $2.26
10	IP and IC labor cost: $1.13	5-minute labor cost: $1.13 X 1 employee = $1.13
11	Total annual IV labor cost: $2746	IV labor cost: $2.26 X 1215 = $2746
12	Total annual IP & IC labor cost: $4759	IP and IC labor cost: $1.13 X 1741 (IP) + 2471 (IC) = 4212 X $1.13 = $4759
13	Total annual labor cost for IV, IC & IP: $7505	Labor cost IP & IC + IV= $2746 + $4759 = $7505
14	Total labor cost per animal: $1.38	Total annual labor cost / # of animals euthanized: $7504 / 5427 animals = $1.38
	EBI SUPPLY COST	
15	Sodium pentobarbital cost per 250 ml bottle: $46.00	
16	Cost per ml (cc): $0.184	Cost of bottle ($46.00) ÷ 250 ml
17	Average IV dose (dog): 5 ml	50-pound dog average
18	Sodium pentobarbital cost per IV dose:	Cost per ml $0.184 X average dose: 5 ml

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	$0.92	
19	Annual sodium pentobarbital IV cost: $1,118	Average IV dose (5 ml) cost: $0.92 X 1215 dogs = $1,118
20	Average IP dose per cat + puppy = 2 ml	7 pound cat and puppy average (some cats and puppies will weigh more, kittens and neonates will weigh less)
21	Sodium pentobarbital cost per IP dose: $0.368	Cost per ml $0.184 X average dose: 2 ml
22	Annual sodium pentobarbital IP cost: $641	243 puppy IP + 1498 cat IP = 1741 X $0.368 = $641
23	Average IC dose (dog) = 5 ml	50-pound dog average
24	Sodium pentobarbital cost per IC dose (dog): $0.92	Cost per ml $0.184 X average dose: 5 ml = $0.92
25	Annual sodium pentobarbital IC (dog) cost: $894	Average IC dose cost: $0.92 X 972 dogs = $894
26	Average IC dose (cat) = 1 ml	7-pound cat average (some cats will weigh more, some will weigh less)
27	Sodium pentobarbital cost per IC dose (cat): $0.184	
28	Annual sodium pentobarbital IC (cat) cost: $276	1499 (feral) cat estimate X $0.184 = $276
29	Total sodium pentobarbital cost: $2,929	Annual IV ($1,118) + IP ($641) + IC cat ($276) + IC dog ($894) = $2,929
30	Average sodium pentobarbital cost per animal: $0.54	Total sodium pentobarbital cost ($2,929) / # of animals euthanized (5427) = $0.54
31	Syringe cost per animal: $0.019	Syringe (6 ml) cost: $19 per 100 ($0.19 each) estimate 100 uses per syringe (*reusing syringes is a standard practice in EBI*)
32	Total annual syringes: 79	Total animals: 5427 EBI injections + 2471 (pre-euthanasia IM injections) = 7,898 injections total / 100 = 79 syringes
33	Annual syringe cost: $15.01	79 syringes X $0.19 = $15.01
34	Average syringe cost per animal: $0.003	$15.01 / 5427 (total animals euthanized) = $0.003
35	Needle cost: $0.01	Needle (22 ga.) cost: $10.00 per 100 (one use only)

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36	Total annual needles: 7898	1 per euthanasia: 5427 + 1 per pre-euthanasia anesthesia: 2471 = 7898
37	Annual needle cost: $78.98	7898 X $0.01 = $78.98
38	Average needle cost per animal: $0.014	$78.98 / 5427 (total animals euthanized) = $0.014
39	Pre-euthanasia anesthesia cost per dog: $1.00	5:1 ratio ketamine/xylazine per 50 pound dog = $0.40 ml X 2.5 ml = $1.00
40	Annual pre-euthanasia anesthesia cost for dogs (fractious): $972	972 fractious dogs X $1.00 per dog (average weight = 50 pounds, 2.5 ml @ $0.40 per ml)
41	Pre-euthanasia anesthesia cost per cat: $0.20	5:1 ratio ketamine/xylazine per 10 pound cat = $0.40 ml X 0.5 ml = $0.20
42	Annual pre-euthanasia anesthesia cost for cats (feral): $299	1499 feral cats X $0.20 per cat (average weight = 10 pounds, 0.5 ml @ $0.40 per ml)
43	Annual total cost of pre-euthanasia anesthesia: $1271	Annual cost dogs ($972) + cats ($299) = $1271
44	Average pre-euthanasia cost per animal: $0.23	$1271 / 5427 (total animals euthanized) = $0.23
45	Total supply cost per animal: $0.787	Sodium pentobarbital per animal: $0.54 + syringe: $0.003 + needle: $0.014 + pre-euthanasia anesthesia: $0.23 = $0.787
	EBI TOTAL COST	
46	Total EBI cost per animal: $2.29	Equipment cost per animal: $0.123 + labor cost per animal: $1.38 + supply cost per animal: $0.787 = $2.29

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CARBON MONOXIDE COST ANALYSIS MATRIX 2009

This cost analysis matrix uses actual 2007 cost and animal data from a municipal animal control agency in North Carolina. Although the actual agency reported best practices use of euthanasia by injection (EBI) for animals younger than 4 months of age (25% of total animals euthanized), this cost analysis assumes 100% chamber use in order to more accurately reflect the industry as a whole and to provide a more useful cost comparison to EBI. Although frequent, 100% chamber use is NOT acceptable practice.

Industry standards demand the use of EBI for animals less than 4 months of age and for animals suffering from respiratory conditions, generally poor health or severe injury.

Industry standards recommend administering 0.5 mg / pound acepromazine maleate (tranquilizer) to adult dogs 20 minutes prior to placing them in the chamber to reduce vocalization/agitation. The dose is typically 25 mg for an average 50-pound dog.

- Total number of dogs euthanized: 2430
- Total number of cats euthanized: 2997
- Total number of dogs and cats euthanized: 5427
- Average number of dogs and cats euthanized per day: 15 (365 days)
- Number of employees (operators): 2 (alternate costs for 1 operator are included)
- For purposes of this cost analysis matrix, an average dog is 50 pounds.

	CARBON MONOXIDE EQUIPMENT COST	
1	CO chamber: $10,500	Cutting Edge Fabrication, estimated usable life: 10 years
2	CO sensor: $300	Unknown brand, estimated usable life: 10 years
3	Chamber lifetime routine maintenance: $5,000	Estimated cost to maintain seals, gaskets and hardware over 10 years = $500 per year

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4	Annual depreciation: $1,080	Chamber: $10,500 + sensor: $300 = $10,800 / 10 = $1,080
5	Annual depreciation + maintenance: $1,580	Equipment depreciation: $1,080 + maintenance: $500 = $1,580
6	CO equipment cost per animal: $0.29	$1,580 (annual depreciation/maintenance) / 5427 (total animals euthanized per year) = $0.29
	TRANQUILIZER COST	
7	Acepromazine tranquilizer per average dog: $1.00	Average dog: 50 pounds: 2.5 ml at $0.40 per ml = $1.00
8	Syringe / needle cost per dog: $0.013	Syringe (reused) cost: $0.003 + needle cost: $0.01 = $0.013
9	Tranquilizer cost per 50 pound dog: $1.013	$1.00 + $0.013 = $1.013
10	Number of dogs tranquilized (estimate): 1701	1701: number of estimated adult dogs euthanized by CO chamber (70% of total dogs)
11	Total annual cost of tranquilizer: $1,723.11	1701 dogs X cost per dog: $1.013 = $1,723.11
12	Tranquilizer cost per animal: $0.32	$1,723.11 / 5427 (total animals euthanized) = $0.317
	CO LABOR COST	
13	Number of employees to euthanize: 2	*Note: actual municipal animal control agency uses 2 operators (employees) to euthanize by carbon monoxide*
14	Load time: 10 minutes	Includes transport to chamber
15	Run time: 35 minutes	Employees do paperwork and watch chamber
16	Unload time: 5 minutes	Remove carcasses, clean chamber for next cycle
17	Total cycle time: 50 min	Load: 10 + run: 35 + unload: 5 = 50 minutes
18	Number of dogs or cats per cycle: 6	Dogs and cats are not mixed in a cycle

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19	Number of cycles per day: 2.5	Average number of animals euthanized per day: 15 / number of animals per cycle: 6 = 2.5
20	Total time per day: 125 minutes	Load + run + unload (cycle time) = 50 minutes X 2.5 cycles = 125 minutes (2.08 hours)
21	Labor cost per minute per person: $0.226	Hourly wage: $10.44 + 30% fringe: $3.13 = $13.57 / 60 minutes = $0.226
22	Total labor cost per minute (2 operators): $0.452	$0.226 X 2 operators = $0.452
23	Total labor cost per cycle: $22.60	$0.452 X 50 minutes = $22.60
24	Labor cost per day: $56.25	$22.60 X 2.5 cycles = $56.50
25	Labor cost per animal: $3.77	$56.50 / 15 animals = $3.766
26	Alternate: labor cost per animal with 1 operator rather than 2: $1.88	$0.226 X 50 minutes = $11.30 X 2.5 cycles = $28.25 / 15 animals = $1.88 (*note: will likely take longer to load and unload but is not reflected in this matrix)*
	CO SUPPLY COST	
27	CO gas cylinder: $219.00	Includes cylinder rental plus gas
28	Annual number of cylinders: 15	Total number of cylinders used in 2007
29	Total gas cost:	$219 per cylinder X 15 cylinders = $3285
30	Gas cost per day:	Annual cost / 365 days = $9.00
31	Supply cost per animal: $0.60	$9.00 / 15 animals = $0.60
	CARBON MONOXIDE TOTAL COST	

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32	CO cost per animal: $4.98	Equipment cost per animal: $0.29 + tranquilizer cost: $0.32 + labor cost per animal: $3.77 + supply cost per animal: $0.60 = $4.98
33	Alternate CO cost (1 operator): $3.09	Equipment cost per animal: $0.29 + tranquilizer cost: $0.32 + labor cost per animal: $1.88 + supply cost per animal: $0.60 = $3.09

CARBON MONOXIDE Vs EBI

34	**EBI cost per animal**	**$2.29**
35	**CO cost per animal (2 operators)**	**$4.98**
36	**CO cost per animal (2 operators)** ***without tranquilizer***	**$4.66**
36	**CO cost per animal (1 operator)**	**$3.09**
37	**CO cost per animal (1 operator)** ***without tranquilizer***	**$2.77**

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